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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/772,625	02/05/2004	James Owen	BEAS-01483US0	5660

23910 7590 02/16/2007
FLIESLER MEYER LLP
650 CALIFORNIA STREET
14TH FLOOR
SAN FRANCISCO, CA 94108

EXAMINER

SYED, FARHAN M

ART UNIT	PAPER NUMBER
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2165

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/16/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/772,625

Applicant(s)

OWEN ET AL.

Examiner

Farhan M. Syed

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 13 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10,13,15-26,28-31,34 and 36-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10,13,15-26,28-31,34 and 36-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date (See Attachment)
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1-39 are pending.

Response to Remarks

2. The Examiner acknowledges the cancellation of claims 1-9, 11-12, 14, 27, 32-33, and 35.

Information Disclosure Statement

3. The information disclosure statement (IDS) submitted on 26 July 2006 and 6 February 2007 was filed after the mailing date of the non-Final Office Action on 13 July 2006. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Specification/Abstract

4. Applicant's arguments, see page 15-16, filed 13 December 2006, with respect to Abstract have been fully considered and are persuasive. The objection of the Abstract in a non-Final Office Action mailed 13 July 2006 has been withdrawn.

Drawing

5. Applicant's arguments, see page 15, filed 13 December 2006, with respect to Figure 3, item 300 and 312; Figure 8, item 800; Figure 9, item 900; Figure 10, item 1000; and Figure 11, item 102 have been fully considered and are persuasive. The

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objection of the drawings in a non-Final Office Action mailed 13 July 2006 has been withdrawn.

Claim Rejections - 35 USC § 112

6. Applicant's arguments, see pages 16-17, filed 13 December 2006, with respect to claims 13, 17-21, 26, 28, 30, 31, and 34 have been fully considered and are persuasive. The rejection of claims 13, 17-21, 26, 28, 30, 31, and 34 in a non-Final Office Action mailed 13 July 2006 has been withdrawn.

Claim Rejections - 35 USC § 101

7. Applicant's arguments, see page 16, filed 13 December 2006, with respect to claim 30 have been fully considered and are persuasive. The rejection of claim 30 in a non-Final Office Action mailed 13 July 2006 has been withdrawn.

Response to Argument

8. Applicant's arguments with respect to claims 10, 13, 15-20, 22-26, 29-31, 34, and 38-39 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 10, 13, 15-20, 22-26, 29-31, 34, and 38-39 are rejected under 35 U.S.C. 103(a) as being anticipated by Shutt et al (U.S. Patent No. 7,058,958 and known hereinafter as Shutt) in view of a non-Patent Literature titled *"Enabling Dynamic Content Caching for Database-Driven Web Sites"* by Candan K.S., et al. (Proceedings of the 2001 ACM SIGMOD International Conference on Management of Data, 2001, Santa Barbara, CA, pages 532-543 and known hereinafter as Candan).

As per claims 10, 19, 29, 30, and 31, Shutt teaches a method for transferring content to a plurality of content repositories (i.e. *"The computer 110 may operate in a networked environment using logical connections to one or more remote computers, such as a remote computer 180. The remote computer 180 may be a personal computer, a server, a router, a network PC, a peer device or other common network node, and typically includes many or all of the elements described above relative to the computer 110, although only a memory storage device 181 has been illustrated in FIG. 1."* The preceding text clearly indicates that a computer network is the network environment where

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remote computers can communicate with a VCR, which is an instance of a server, where a database resides on. An ordinary person skilled in the art understands that a VCR resides on a database, in which a database resides on a server. Furthermore, because the databases reside on a network, it is clearly anticipated that content is transferred between databases when they are communicating.)(Column 5, lines 6-13), comprising: associating a first schema with the content (i.e. *"At step 410, the client application requests initialization of a particular second application, such as, for example, a virtual database, a request for data, or a request for a particular partition."* The preceding text clearly indicates that an instance of content, including the first content is a request for data or a request for a particular partition. *"Using this configuration information, at step 430, the model creates local private data structures reflecting the logical to physical mapping of the data location and the association between replicas of the data. Along with this, a communication mechanism (e.g., TCP/IP port) is desirably opened to support remote administration."* The preceding text clearly indicates that an instance of a schema, including the first schema is the private data structures and contained in the private data structures are data, which are contents.)(Column 7, line 67; column 8, lines 1-3 and lines 17-22); and communicating with a virtual content repository (VCR) via an Application Programming Interface (API) to provide the content and the schema to the VCR (i.e. *"A configuration database 260 is accessed by the client programming model 210 and provides the topology of the various data servers 250 and databases 255 to the client programming model 210. The client programming model 210 wraps the databases 255, 260 as a virtual database virtual database 230. In other words, the model 210 views the application data servers 250 and configuration servers 265 as one virtual database with multiple databases 255, 260 hidden behind it. The virtual database 230 of the present invention can be divided up between different data centers and different switches, as described further with respect to FIG. 3."* *"The administration console 220 is in communication with the configuration database(s) 260, and retrieves the topology from the configuration database(s) 260, which are served by configuration server(s) 265."* The preceding text clearly indicates that the process operable is the client programming model that interacts with a virtual content repository, which is a virtual database. *"An example of a method in accordance with*

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the present invention is described with respect to FIG. 4. At step 400, an application (or API, for example) (referred to herein as a client application) instantiates the client programming model." The preceding text clearly indicates that the mechanism for the process to interact is the API used to interact with a VCR, which is contained in the client programming model.)(Column 6, lines 14-23 and lines 30-33; column 7, lines 63-67); and wherein the VCR integrates a plurality of content repositories into a logical content repository and transfers the content and the schema to the plurality of content repositories (i.e. *"Using this configuration information, at step 430, the model creates local private data structures reflecting the logical to physical mapping of the data location and the association between replicas of the data. Along with this, a communication mechanism (e.g., TCP/IP port) is desirably opened to support remote administration."* The previous text clearly indicates that the logical to physical mapping of the data location is the VCR containing the at least first content, which is data contained in the data structure, a reference to the first content, which is contained in the configuration information, and the first schema, which is an instance of the private data structure.)(Column 8, lines 17-22); and where the API presents a unified view of the plurality of content repositories as a single repository. (i.e. *"At step 440, the model returns a handle/interface/object to the client application. The client application invokes a method on that interface/handle/object at step 450 to make a specific request to access data (e.g., SQL). The client application indicates the level of consistency and freshness of data that is desired by the request. The client application also indicates the logical data location. The request is then provided back to the model. At step 460, the model consults its private data structures to map the logical location to a physical location, and to determine which copies of data are candidates to satisfy the consistency required by the request. The model also determines which of those copies of the data are in a healthy enough state to be accessed."* The preceding text clearly indicates that the VCR, which contains information in the logical location is operable, which is the ability to satisfy the client application request.)(Column 8, lines 23-36).

Shutt does not explicitly teach identifying a content in at least one of a file system and a website by traversing the at least one of a file system and website.

Canden teaches identifying a content in at least one of a file system and a website by traversing the at least one of a file system and website (i.e. *"Figure 6(a) shows the dependencies between the four entities (pages, applications, queries, and data) involved in the creation of dynamic content. As shown in this figure, knowledge about these four entities are distributed on three different servers (web server, application server, and the database management server). There is no single entity which is aware of the page URL, the associated queries, and the underlying data used to answer those queries."* *"Various content delivery networks (CDNs) are currently in operation. These include Adero, Akamai, Digital Island, MirrorImage, and others. Although each of these services are using relatively different technologies, they all aim to utilize a set of web-based network elements (or servers) to achieve efficient delivery of web content"* The preceding text clearly indicates that a server exemplifies a file system and a website is exemplified by a web server that hosts many websites.)(Page 534, section 2.1; page 542, section 6).

It would have been obvious to a person of ordinary skill in the art at the time of Applicant's invention to modify the teachings of Shutt with the teachings of Candan to include identifying a content in at least one of a file system and a website by traversing the at least one of a file system and website with the motivation to achieve efficient delivery of web content (Candan, page 542, section 6).

As per claims 13, and 34, Shutt teaches a method wherein: each content repository in the plurality of content repositories exposes a first set of services to plug into the VCR (i.e. *"In other words, the model 210 views the application data servers 250 and configuration servers 265 as one virtual database virtual database with multiple databases 255, 260*

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hidden behind it. The virtual database 230 of the present invention can be divided up between different data centers and different switches, as described further with respect to FIG. 3. It is contemplated that servers 250 can reside in multiple data centers." "The configuration database(s) 260 preferably contains the topology of the data servers 250 and databases 255 (i.e., how the data servers are laid out and related to each other). In the configuration database 260, there is a mapping of the logical partitions ranges to the physical partitions (which is a list of servers and databases)."(Column 6, lines 17-26 and lines 32-39).

As per claims 15, 26, and 36, Shutt teaches a method wherein the step of identifying the first content includes: extracting properties from one of: 1) a file; 2) a hypertext markup language (HTML) document; and 3) an Extensible Markup Language (XML) document (i.e. *"Managed code uses the .NET Framework's common type libraries and its metadata "blueprints" for managing components. Managed code means that there is a defined contract of cooperation between natively executing code and the runtime itself. Managed code is written in the language of choice with its own syntax and type rules and its own compiler to map this syntax to the common language runtime, so varying language programming conventions yield identical class behavior."*)(Column 11, lines 1-9).

As per claims 16, and 37, Shutt teaches a method wherein the step of associating the first schema with the first content includes: acquiring the first schema from at least one of: 1) a file; 2) a hypertext markup language (HTML) document; and 3) an Extensible Markup Language (XML) document (i.e. *"The client programming model of the present invention can be used in conjunction with a .NET data provider for managed code clients and front end applications which will thinly wrap the SQL Server .NET data provider while providing the*

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additional benefits of the infrastructure (e.g., partitioning abstraction, and automatic command failover support, server connection validation, stale replica detection, etc.).”(Column 11, lines 10-16).

As per claims 17, and 38, Shutt teaches a method wherein the step of communicating with the VCR includes: persisting in one of the plurality of content repositories the content and the schema (i.e. *“The client programming model of the present invention can be used in conjunction with a .NET data provider for managed code clients and front end applications which will thinly wrap the SQL Server .NET data provider while providing the additional benefits of the infrastructure (e.g., partitioning abstraction, and automatic command failover support, server connection validation, stale replica detection, etc.).*”(Column 11, lines 10-16).

As per claims 18, and 39, Shutt teaches a method wherein the step of communicating with the VCR includes: preserving in one of the plurality of content repositories hierarchical relationships between the first content and other content in the VCR (i.e. *“Also shown above each server 250 in FIG. 5 (and in FIG. 6) is a representation of the physical partitions 251. In partitions 251, different ranges of hashes are shown. These hashes represent an additional (optional) layer of logical to physical mapping. When present, this mapping is used in the rebalancing of data when adding servers to scale-out. Other techniques can be used to determine partitions and add replicas. For example, the application can supply physical partitions to the client programming model by any technique, such as looking it up in a stored mapping or a determined mapping.”*)(Column 8, lines 60-67).

As per claim 20, Shutt teaches a system further comprising: at least one second process that interacts with the first process; wherein the at least one second process

provides to the first process the content and the schema corresponding to the content; and a third set of services that enables interaction between the at least one second process and the first process (i.e. *"Using this configuration information, at step 430, the model creates local private data structures reflecting the logical to physical mapping of the data location and the association between replicas of the data. Along with this, a communication mechanism (e.g., TCP/IP port) is desirably opened to support remote administration."*)(Column 8, lines 17-22).

As per claims 21 and 23, Shutt teaches a system wherein: the third set of services provides a first function for directing the at least one second process to extract at least one property from the content (i.e. *"The model then determines the appropriate server to fulfill the client application's request, as described in further detail below. At step 420, the model receives this request from the client application and looks up a particular partition for the client application (or API). In this manner, the model gets a request, and the determines which server and/or database to use, based on the mapping. More particularly, the model reads configuration information from a known location. For example, configuration information is retrieved from a set of centralized configuration databases (e.g., databases 260 in FIG. 2) whose location is indicated in an .ini file (e.g., .ini file 245 in FIG. 2) or registry setting. An alternative implementation could store the information locally."*)(Column 8, lines 4-16); and wherein a property is an association between a name and a value (i.e. *"Using this configuration information, at step 430, the model creates local private data structures reflecting the logical to physical mapping of the data location and the association between replicas of the data. Along with this, a communication mechanism (e.g., TCP/IP port) is desirably opened to support remote administration."*)(Column 8, lines 17-22).

As per claims 22 and 24, Shutt teaches a system wherein: the at least one second process derives the schema from the content (i.e. *"Using this configuration information, at step 430, the model creates local private data structures reflecting the logical to physical mapping of the data location and the association between replicas of the data. Along with this, a communication mechanism (e.g., TCP/IP port) is desirably opened to support remote administration."*)(Column 8, lines 17-22).

As per claim 25, Shutt teaches a system further comprising: at least one second process operable that locates the schema corresponding to the content (i.e. *"More particularly, the model 210 reads the topology from the configuration database 260, so the model 210 can later determine the state of the application data servers/database (i.e., the virtual database 230 that comprises the multiple switches 300 and database servers 250). From this information, the model 210 determines the data servers/databases 250, 255 that the client application 200 should access to retrieve the requested data. Thus, based on the topology and the state of data servers/databases 250, 255, the model 210 routes the client application 200 to a data server/database 250, 255 that has the requested data and is in a "healthy" state."*)(Column 7, lines 44-55).

As per claim 28, Shutt teaches a system wherein: the first set of services and the second set of services share a content model (i.e. *"More particularly, the model 210 reads the topology from the configuration database 260, so the model 210 can later determine the state of the application data servers/database (i.e., the virtual database 230 that comprises the multiple switches 300 and database servers 250). From this information, the model 210 determines the data servers/databases 250, 255 that the client application 200 should access to retrieve the requested data. Thus, based on the topology and the state of data servers/databases 250, 255, the model 210 routes the client application*

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200 to a data server/database 250, 255 that has the requested data and is in a "healthy" state.")(Column 7, lines 44-55).

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Farhan M. Syed whose telephone number is 571-272-7191. The examiner can normally be reached on 8:30AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin can be reached on 571-272-4146. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

FMS


JEFFREY GAFFIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100